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MORTON ARBORETUM
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CONIFERS OF THE MORTON ARBORETUM VI

Abies homolepis (Sieb & Zucc.), Nikko Fir

Preferring as they do a more humid climate and disliking severe cold, extreme heat and drying winds, it is not surprising that most firs are intolerant of midwestern growing conditions. The White and Douglas Firs (the latter not a true *Abies*) are, of course, two notable exceptions, to which may be added several other somewhat less reliable forms. The Nikko Fir introduced from the mountainous regions of Japan in 1861 is one of them, a handsome broad pyramidal tree which under favorable conditions reaches heights up to 60 ft. or more. Although recommended particularly for the eastern states, we have found it can be grown locally, too, if the necessary wind protection and other cultural requirements are provided. In our alkaline soil the foliage color may lack the usual dark green richness, but its V arrangement on the twigs and characteristic density are still evident. The branches are narrow and tapering and extend out from the trunk at acute angles. The typical fir needles clothing them are flat, blunt tipped, soft to the touch and marked on their lower surfaces with silvery lines. They vary in size from an inch and an eighth on the outer ranks to a half inch or so on the inner, are about one sixteenth of an inch wide and have notched apexes. A prominent grooving on the glabrous branchlets, resinous buds and scaly bark are further distinguishing ear-marks.

Although first planted in the Arboretum 27 years ago we have still to witness the Nikko Fir's decorative four inch purplish cones, which like those of all true firs are borne erectly along the upper sides of the branches. The species has proved a slow grower, too, not even the oldest Arboretum specimens having exceeded 25 feet. A marked contrast to the 100-150 ft. trees found in Japan, where old, massive branched, broad headed specimens have been likened to mature Cedars of Lebanon.

The largest Nikko Firs in the Arboretum are located in the conifer groupings along the eastward extension of the Hedge Garden axis.

Abies Nordmanniana (Spach), Nordmann Fir

Named after the Finnish Botanist, Alexander Nordmann, who found it in the Caucasus region in 1837, this handsome, narrow pyramidal species has proved to be one of the most distinguished appearing firs hardy in the north. Its hardiness does not necessarily insure its adaptability, however, for like the other members of the genus its cultural idiosyncrasies must be catered to if it is to succeed. Being especially susceptible to winter sun, a north exposure is essential as is a windbreak providing shelter from prevailing winds. Less exacting as to soil, either a medium clay or gravelly loam is suitable as long as it is moist but not wet.

Like the Nikko Fir, this Eurasian native (Caucasus, Asia Minor, Greece) cannot be expected to reach its mature maximum under cultivation. Whereas trees 200 ft. tall with diameters of 4 to 5 ft. occur in the wild, cultivated specimens will do well to attain 50 or 75 ft. For, until well established its growth rate is slow. Young trees show a narrow conical outline with rigid, evenly spaced horizontal or somewhat declined branches. Later they widen into broader pyramids.

The glossy, very dark green needles densely concentrated on the upper sides of the shoots are one of the species most conspicuous features. Their forward pointing tendency is also noticeable, and if examined closely it will be noted that their lower surfaces are marked by two whitish bands separated by a sunken midrib. Individual needles average from three quarters to an inch and a half in length, are wide and very flat.

Nordmann Fir buds, unlike those of other species, are not resinous, and the trees shiny young shoots are of grayish brown color. The bark of young plants is thin, smooth and grayish, becoming rough and scaly with age.

As in the case of the Nikko Fir, Arboretum specimens have not yet reached fruiting size. The erect, five or six inch reddish brown cones are quite decorative, however, and will in time add appreciably to the tree's late summer and early autumn aspect.

A planting of several Nordmann Firs may be seen in the Geographical Groups, Caucasus Section, along the south side of Valley Road.

E. L. Kammerer

Nordmann Fir, *Abies Nordmanniana* (Spach), in the Caucasus section of the Arboretum geographical plantings.

Nikko Fir, *Abies homolepis* (Sieb. & Zucc), in the conifer groupings along the extension of the Hedge Garden axis.

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